

(1) 20-7854



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

646.3110

Job Sheet 200659



Part No: 646.3110

Job Qty: 20 pcs

Part Name: Channel



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 9/13/19

Job Tracking No:

Due Date: 10/21/19

Created By: Jennifer Renwick

Type: Stock

Description:

Note: DWG 646.3100 REV N/C IPP REV:A NEW ISSUE 12-10-24 JLM VERIFIED BY:DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Bandsaw - 1	20 pcs		10/21/19	0.00	1.10	Bandsaw - 1		JML 19/11/14
110	HAAS 4 Axis - B4B	20 pcs		10/21/19	0.43	22.22	HAAS - 1 - B4B		JML 19/11/28
							HAAS - 2 - B4B		
							HAAS - 3 - B4B		
							HAAS - 4 - B4B		
120	QC 2	20 pcs		10/21/19	0.00	0.00	QC 2 - 1		
							QC 2 - 12		
							QC 2 - 14		
							QC 2 - 17		
							QC 2 - 19		
							QC 2 - 2		
							QC 2 - 20		
							QC 2 - 22		
							QC 2 - 23		
							QC 2 - 25		
							QC 2 - 32		
							QC 2 - 33		
							QC 2 - 35		
							QC 2 - 39		
							QC 2 - 4		
							QC 2 - 40		
							QC 2 - 44		
							QC 2 - 45		
							QC 2 - 48		
							QC 2 - 49		JML 19/11/28
							QC 2 - 50		



Container No: S233062



Part: 646.3110

Job No: 200659

Serial No/Batch: S233062

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 11/19/19

Plex 9/13/19 2:03 PM Dart.Renwick.Jennifer

130	QC 8	20 pcs	10/21/19	0.00	0.00	QC 2 - 51	
						QC 2 - 52	
						QC 2 - 57	
						QC 2 - 62	
						QC 2 - 63	
						QC 2 - 8	
						QC 2 - 66	
						QC 2 - 64	
						QC 2 - 65	
						QC 2 - 5	
						QC 2 - 71	
						QC 2 - 73	
						QC 2 - 69	
						QC 8 - 12	
						QC 8 - 14	
						QC 8 - 17	
						QC 8 - 20	
						QC 8 - 25	
						QC 8 - 3	
						QC 8 - 32	J.C. 14-11-28
						QC 8 - 33	
						QC 8 - 35	
						QC 8 - 39	
						QC 8 - 4	
						QC 8 - 44	
						QC 8 - 45	
						QC 8 - 49	
						QC 8 - 58	
						QC 8 - 8	
						QC 8 - 9	
						QC 8 - 68	
						QC 8 - 67	
140	Outsource - 4 - Anodize	20 pcs	10/21/19			ATG001-VC	8
150	Packaging 2-1 - Receive - B4B	20 pcs	10/21/19	0.00	0.00	Packaging 2 - 1 - B4B	
						Packaging 2 - 2 - B4B	
						Packaging 2 - 3 - B4B	
						Packaging 2 - 5 - B4B	
						Packaging 2 - 4 - B4B	
						Packaging 2 - 6 - B4B	
						Packaging 2 - 7 - B4B	
						Packaging 2 - 8 - B4B	
						Packaging 2 - 9 - B4B	
						Packaging 2 - 10 - B4B	
						Packaging 2 - 11 - B4B	
						Packaging 2 - 12 -	

				B4B	
				Packaging 2 - 13 - B4B	
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	
				Packaging 2 - 27 - B4B	
				Packaging 2 - 28 - B4B	
				Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
155 QC 5	20 pcs	10/21/19	0.00 0.00	QC 5 - 10	
				QC 5 - 12	
				QC 5 - 17	
				QC 5 - 18	
				QC 5 - 19	
				QC 5 - 22	
				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 43	
				QC 5 - 49	

						QC 5 - 51	
						QC 5 - 58	
						QC 5 - 68	
						QC 5 - 9	
						QC 5 - 50	
						QC 5 - 30	
						QC 5 - 40	
						QC 5 - 61	
						QC 5 - 81	
						Packaging 3 - 1 - B4B	
180	Packaging 3-1 - Stock - B4B	20 pcs	10/21/19	0.00	0.00	Packaging 3 - 2 - B4B	
						Packaging 3 - 3 - B4B	
						Packaging 3 - 4 - B4B	
						Packaging 3 - 5 - B4B	
						Packaging 3 - 6 - B4B	
						Packaging 3 - 7 - B4B	
						Packaging 3 - 8 - B4B	
						Packaging 3 - 9 - B4B	
						Packaging 3 - 10 - B4B	
						Packaging 3 - 11 - B4B	
						Packaging 3 - 12 - B4B	
						Packaging 3 - 13 - B4B	
						Packaging 3 - 14 - B4B	
						Packaging 3 - 15 - B4B	
						Packaging 3 - 16 - B4B	
						Packaging 3 - 17 - B4B	
						Packaging 3 - 18 - B4B	
						Packaging 3 - 19 - B4B	
						Packaging 3 - 20 - B4B	
						Packaging 3 - 21 - B4B	
						Packaging 3 - 22 - B4B	
						Packaging 3 - 23 - B4B	
						Packaging 3 - 24 - B4B	
						Packaging 3 - 25 - B4B	
						Packaging 3 - 26 - B4B	
						Packaging 3 - 27 - B4B	
						Packaging 3 - 28 - B4B	
						Packaging 3 - 29 - B4B	

DAS
28
9-89

190 QC 21 - SA

20
pcs

10/21/19

0.00 0.00

Packaging 3 - 30 -
B4BPackaging 3 - 31 -
B4BPackaging 3 - 32 -
B4BPackaging 3 - 33 -
B4BPackaging 3 - 34 -
B4BPackaging 3 - 35 -
B4BPackaging 3 - 36 -
B4B

QC 21 - SA - 21

QC 21 - SA - 70

QC 21 - SA - 53

DAS
21
9-30

DEC 17 2019

Part Op 100 - Cut Blank at 15.00"

Descriptions: 110 - 1-Machine per folio FB145

120 - (QC2- Inspect parts off machine FAI/FAIB)

130 - (QC8- Inspect parts - second check)

140 - Issue P/O to ATG : 45208 1- Hard Anodize Black and Prime as per Dwg 646.3100

150 - (Receive & Inspect for Damage & Mat'l Certs)

155 - (QC5- Inspect part completeness to step on W/O)

180 - (Identify as per dwg & Stock Location: _____) ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

190 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M7075T6S1.500X1.500	7075-T6S Sheet 1.5" Thick Plate X 1.5" Wide	25 ft (1.25 ea)	100-Bandsaw - 1	

$5227011 = 24'$
 $5138087 = 2.46 \times 1.25$
 $Total = 26.46$
 29.71

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Bandsaw - 1	M7075T6S1.500X1.500	25	13	0

Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Channel	14.600inches $\pm$ 0.010	14.610 14.590		14.590
2	Channel	13.130inches $\pm$ 0.010	13.140 13.120		13.13
3	Channel	0.090inches $\pm$ 0.010	0.100 0.080		.090
4	Channel	0.470inches $\pm$ 0.010	0.480 0.460		.480
5	Channel	0.750inches $\pm$ 0.010	0.760 0.740		.750
6	Channel	83.000Degrees $\pm$ 0.500	83.500 82.500	Angle	83
7	Channel	0.880inches $\pm$ 0.010	0.890 0.870		.875
8	Channel	0.645inches $\pm$ 0.005	0.650 0.640		.645
9	Channel	0.110inches $\pm$ 0.010	0.120 0.100		.111
10	Channel	0.120inches $\pm$ 0.010	0.130 0.110		.124
11	Channel	0.209inches $\pm$ 0.005 - 0.001	0.214 0.208	Diameter	.210
12	Channel	0.409inches $\pm$ 0.005	0.414 0.404		.408
13	Channel	0.420inches $\pm$ 0.002	0.422 0.418		.418
14	Channel	2.188inches $\pm$ 0.002	2.190 2.186		2.184
15	Channel	2.188inches $\pm$ 0.002	2.190 2.186		2.188
16	Channel	2.188inches $\pm$ 0.002	2.190 2.186		2.188
17	Channel	2.187inches $\pm$ 0.002	2.189 2.185		2.187
18	Channel	0.785inches $\pm$ 0.002	0.787 0.783		.785
19	Channel	2.395inches $\pm$ 0.002	2.397 2.393		2.395
20	Channel	0.669inches $\pm$ 0.002	0.671 0.667		.669
21	Channel	0.372inches $\pm$ 0.002	0.374 0.370		.370
22	Channel	0.334inches $\pm$ 0.002	0.336 0.332		.332
23	Channel	0.175inches $\pm$ 0.002	0.177 0.173		.174
24	Channel	0.130inches $\pm$ 0.002	0.132 0.128		.130

Plex 9/13/19 2:03 PM Dart.Renwick.Jennifer

Entered:

Date:

7E Jan 9/20

NCR No.

20-7854

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

Route update only ☐

Job: 200659

Part No. 646.3110

DISPOSITION

 Rework ☐
 Scrap ☒
 Use-as-is ☐

DEPARTMENT/PROCESS

Skid-tube ☐	Cross tube ☐	Eng. (Non-AW) ☐	Engineering ☐
Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Water Jet ☐
Large Fab ☐	Finishing ☐	Rec/Store/Packaging ☐	Supplier ☐
			Quality ☐

Date: 19/11/26

Sequence #: 110

QTY Affected: 1

MRB (QSI042)

DAS
9
9-89

19.11.26

Description Work Order Deviation

Disposition

while cutting off excess material, cut too far and cut ~~the~~ into the parts!
 (Part under size -0.020)

Scrap and replace
 S/N: 5138087-1.25"

Completed By

19/11/26

Lead hand / Supervisor

19-11-26

QC / QA Coordinator

DAS
9
9-89

19.11.26

Root Cause

Operator	☒
Manufacturing Process	☐
Equip/Tooling	☐
Handling/Preservation	☐
Material	☐
Product Improvement	☐
Process Improvement	☐
Human Factors	☐

FAULT CATEGORY

☐ Pressure/Forced	☐ Contamination	☐ Power Loss/Surge	☐ Positioned Wrong
☐ Bending	☐ Misaligned/off center	☐ Folio/Program	☒ Outside Tolerance
☐ Crushing	☐ BOM/Route	☐ Grain Direction	☐ Drawing
☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Finish
☐ Crimp/Kink/Ripple/Wave/Twist	☐ Incomplete/Unclear Instructions	☐ Wrong Stock Pulled	☐ Part Lost/Missing
☒ Marks/Chatter	☐ Drill Holes	☐ Out of Sequence	☐ Misread
☐ Mislabeled	☐ Fit/Function	☐ Off-set/Set-up	

Other/Details:



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB045268



Supplier: ATG001-VC
A.T.G. Industries Inc
760 INDUSTRIELLE STREET
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB045268
PO Date: 11/29/19
Due Date: 12/16/19
Purchase Order Revision:
Revision Date:
Ship-To Contact: Guerin, Kimberley
Phone: 613-632-5200 Ext: 298
kguerin@dartaero.com

Via: Ground
Pymt Terms: Net 60

Freight Terms:
Special Comments:

E-MAILED
2019-12-05

Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	200659	646.3110	646.3100 Rev N/C	Channel : Various STC's Issue P/O to ATG : 1- Hard Anodize Black and Prime as per Dwg 646.3100	Firmed	-	12/16/19	20 pcs	0 pcs	20 pcs	\$11.70/pcs	\$234.00
2	202237	D5576-1	D5576 Rev A	Deflector, Upper, Cable Cutter : Various STC's Issue P/O: Black Anodize & Prime as per Dwg. D5576 Certification of Conformity is required.	Firmed	-	12/16/19	4 pcs	0 pcs	4 pcs	\$10.55/pcs	\$42.20
3	202492	647.1712	647.1700 Rev E	Gusset : Various STC's Issue P/O to ATG : Hard Anodize, Color Black and Prime as per Dwg 647.1700 Rev. E	Firmed	-	12/9/19	23 pcs	0 pcs	23 pcs	\$13.70/pcs	\$315.10
Line Item Note **NEED BY DEC 9**												
4	203273	646.3717	646.3700 Rev A	Doublers : Various STC's (Outsource process-Anodize per QSI017 4.1.10.1) Issue P/O ATG, black anodize and prime as per dwg 646.3717 Rev. A	Firmed	-	12/16/19	24 pcs	0 pcs	24 pcs	\$7.30/pcs	\$175.20



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PURCHASE ORDER

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Items												
Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
5	202760	D5590-1	D5590 Rev A	Gusset, Inboard LH : Various STC's Issue P/O to ATG : 1- Anodize Black per MIL-A-8625, Type II, Class 2 as per Dwg. D5590 2- Prime Grey as per Dwg. Certification of Conformity is required.	Firmed -		12/16/19	8 pcs	0 pcs	8 pcs	\$7.40/pcs	\$59.20
6	202761	D5590-2	D5590 Rev A	Gusset, Inboard RH : Various STC's Issue P/O: 1- Anodize Black per MIL-A-8625, Type II, Class 2 as per Dwg. D5590 2- Prime Grey as per Dwg. Certification of Conformity is required.	Firmed -		12/16/19	8 pcs	0 pcs	8 pcs	\$7.40/pcs	\$59.20
7	196486	D5532-041	D5532 Rev A	Valve Cap Assembly : Various STC's Issue P/O: Blue Anodize as per Dwg D5532 BLUE ANODIZE PER MIL-A-8625F TYPE I or IB or IC or II or IIB CLASS 2	Firmed -		12/9/19	20 pcs	0 pcs	20 pcs	\$8.55/pcs	\$171.00
Line Item Note **NEED BY DEC 9**												



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PURCHASE ORDER

POHB045268



Items												
Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8	200189	D5579-1	D5579 Rev A	Center Clip, Cable Cutter : Various STC's Issue P/O: 1- Anodize Black per MIL-A-8625, Type II, Class 2 as per Dwg. D5579 2- Prime Grey as per Dwg. Certification of Conformity is required.	Firmed	-	12/5/19	12 pcs	0 pcs	12 pcs	\$6.90/pcs	\$82.80
Line Item Note ** RUSH NEED BY DEC 5**												
											Grand Total: \$1,138.70	

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 12/5/19 8:46 AM Dart.Guerin.Kimberley



A.T.G. Industries Inc.
760 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 919189

Date: 10-Dec-19

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Kimberley Guerin
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
		ATG Delivery	
Quantity	Description		
	Please reference this document's Pack List number on all correspondences regarding this shipment. If you have any questions, please contact us.		
20 ea	Part: 646.3110 Channel Hard Black Anodize per MIL-A-8625F, Type III, Class2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied), .0006-.0009" (.6 - .9 mils) per drawing. Batch/Lot# 5195271 Job: 26539 PO: POHB045268	Rev: NC Expiry Date: 10/31/2020 Line: 1	DAS 68 1-89
24 ea	Part: 646.3717 Doubler Hard Black Anodize per MIL-A-8625F, Type III, Class2, .0005-.0045" (.5 - 4.5mils) Prime per MIL-PRF-23377, Type I, Class N (Customer Supplied) Batch/Lot# 5195271 Job: 26542 PO: POHB045268	Rev: A Expiry Date: 10/31/2020 Line: 4	
CERTIFICATE OF CONFORMANCE A.T.G Industries Inc. certifies that all items in this shipment conform to the requirements. Date: DEC 10 2019 Certified Signature: _____ Receiver Signature: _____ A.T.G Industries Inc. is AS9100 Registered and Nadcap Chemical Processing Accredited. Made in Canada.			

RECEIVED

DEC 11 2019

DART AEROSPACE LTD.



A.T.G. Industries Inc.
760 Industrielle Street
Rockland, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 919189

Date: 10-Dec-19

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

Kimberley Guerin
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms	Ship Via
	ATG Delivery

Quantity

Description

Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.

Made in Canada.